Table 4-1
Data Needs/Data Uses

Tasks	Sampling Area	Parameter	Number of Locations/Samples	Data Use
Sediment Sampling – Analytical Testing	Southern Navigation Channels (South of Port Newark)	All samples will be analyzed for PCB Congeners and Homologues, Aroclor PCBs, pesticides, TEPHs, SVOCs, organotins, chlorinated herbicides, inorganics, cyanide, VOCs, mercury, titanium, PCDD/PCDF, TOC, and moisture content. Grain size and bulk density will also be assessed on a more limited basis. See Tables 5-1 through 5-10 for the analytical methods.	12 Locations, 46 Samples: 36 Field Samples, 2 Field Duplicates, 6 QA/QC Samples, 2 Trip Blank Samples.	RI Goal 1 (Nature and Extent) - Assess broad spatial and vertical patterns of contaminants.
	Northern Navigation Channels (North of Port Newark)		6 Locations, 46 Samples: 36 Field Samples, 2 Field Duplicates, 6 QA/QC Samples, 2 Trip Blank Samples.	RI Goal 1 (Nature and Extent) - Assess broad spatial and vertical patterns of contaminants.
	Port Channels		6 Locations, 23 Samples: 18 Field Samples, 1 Field Duplicate, 3 QA/QC Samples, 1 Trip Blank Sample.	RI Goal 1 (Nature and Extent) - Assess broad spatial and vertical patterns of contaminants.
	Transitional Slopes		5 Locations, 40 Samples: 30 Field Samples, 2 Field Duplicates, 6 QA/QC Samples, 2 Trip Blank Samples.	RI Goal 1 (Nature and Extent) - Assess broad spatial and vertical patterns of contaminants and understand potential focusing mechanisms between Navigation Channels and Sub-tidal Flats.
	Sub-tidal Flats (deep)		9 Locations, 69 Samples: 54 Field Samples, 3 Field Duplicates, 9 QA/QC Samples, 3 Trip Blank Samples.	RI Goal 1 (Nature and Extent) - Assess broad spatial and vertical patterns of contaminants.
	Sub-tidal Flats (shallow)		19 Locations, 96 Samples: 76 Field Samples, 4 Field Duplicates, 12 QA/QC Samples, 4 Trip Blank Samples.	RI Goal 1 (Nature and Extent) - Assess broad spatial and vertical patterns of contaminants.
	Industrial Waterfront (Source Identification)		9 Locations, 70 Samples: 55 Field Samples, 3 Field Duplicates, 9 QA/QC Samples, 3 Trip Blank Samples.	RI Goal 1 (Nature and Extent) - Assess broad spatial and vertical patterns of contaminants; RI Goal 2 (Risk Assessment) - Understand nature and extent of contamination in ecologically sensitive areas; and RI Goal 3 (Source Identification) - Confirm evidence of current/ historical discharges to the Bay.
	Inter-tidal Areas		3 Locations, 17 Samples: 12 Field Samples, 1 Field Duplicate, 3 QA/QC Samples, 1 Trip Blank Sample.	RI Goal 1 (Nature and Extent) - Assess broad spatial and vertical patterns of contaminants; RI Goal 2 (Risk Assessment) - Understand nature and extent of contamination in ecologically sensitive areas; and RI Goal 3 (Source Identification) - Determine impact of local sources in select areas.
Sediment Sampling – Radiochemistry Testing	Northern Navigation Channels (North of Port Newark)	Lead-210, Beryllium-7 (surface samples only). See Tables 5-1 through 5-9 for analytical methods.	6 Locations, 63 Samples: 54 Field Samples, 3 Field Duplicates, 6 QA/QC Samples.	RI Goal 1 (Nature and Extent) - Verify sedimentation rates.
	Transitional Slopes	Lead-210, Cesium-137, Beryllium-7 (surface samples only). See Tables 5-1 through 5-10 for analytical methods.	5 Locations, 54 Samples: 45 Field Samples, 3 Field Duplicates, 6 QA/QC Samples.	RI Goal 1 (Nature and Extent) - Confirm depth of the 1940 horizon and verify sedimentation rates. Also, understand potential focusing mechanisms between Navigation Channels and Sub-tidal Flats.

Table 4-1 (cont'd)
Data Needs/Data Uses

Tasks	Sampling Area	Parameter	Number of Locations/Samples	Data Use
Sediment Sampling – Radiochemistry Testing (cont'd)	Sub-tidal Flats (deep)	Lead-210, Cesium-137, Beryllium-7 (surface samples only). See Tables 5-1 through 5-10 for analytical methods.	9 Locations, 96 Samples: 81 Field Samples, 5 Field Duplicates, 10 QA/QC Samples.	RI Goal 1 (Nature and Extent) - Confirm depth of the 1940 horizon and verify sedimentation rates.
	Sub-tidal Flats (shallow)		19 Locations, 198 Samples: 171 Field Samples, 9 Field Duplicates, 18 QA/QC Samples.	RI Goal 1 (Nature and Extent) - Confirm depth of the 1940 horizon and verify sedimentation rates.
	Industrial Waterfront (Source Identification)		9 Locations, 97 Samples: 82 Field Samples, 5 Field Duplicates, 10 QA/QC Samples.	RI Goal 1 (Nature and Extent) - Confirm depth of the 1940 horizon and verify sedimentation rates; RI Goal 3 (Source Identification) - Understand relationship between contaminant discharge and specific time periods.
	Inter-tidal Areas		3 Locations, 33 Samples: 27 Field Samples, 2 Field Duplicates, 4 QA/QC Samples.	RI Goal 1 (Nature and Extent) - Confirm depth of the 1940 horizon and verify sedimentation rates; RI Goal 2 (Risk Assessment) - Understand sedimentation rates in ecologically sensitive areas.
Biologically Active Zone (BAZ) Investigation	Various geomorphic areas	Sediment profile imaging and grab sampling of BAZ.	14 locations: 6 in Sub-tidal Flats, 5 in Inter-tidal Areas, and 3 in Navigation Channels.	RI Goal 2 (Risk Assessment) - Understand depth of the BAZ in the Phase I Study Area.
Geophysical Surveys	Phase I Study Area	Bathymetry	Planned survey tracklines extending across the Bay will be spaced at approximate 0.25-mile intervals oriented perpendicular to the Bay.	RI Goal 1 (Nature and Extent) - Verify identified geomorphic features, and assist the field crew in locating various cores.

Notes:
a. QA/QC Samples include MS/MSD samples and Rinse Blanks.
b. Assumes MS/MSD are collected at a rate of 1 (MS) and 1 (MSD) per 20 samples for organic constituents or 1 (MS) and 1 (DUP) per 20 samples for inorganic constituents.
c. Total number of samples includes QA/QC samples.
d. Table represents maximum number of samples to be collected. The actual number of samples collected may be lower.